

CLAIMS

What is claimed is:

1. A camera comprising:
a record button;
a lens;
an image sensor for receiving images viewed by the lens;
5 a speaker;
an audio amplifier; and
processing circuitry that comprises a control algorithm that implements an
automated zoom control function that automatically records images having different
zoom levels while depressing the record button, and which, upon playback, adjusts the
10 gain of the audio amplifier to adjust the sound output volume in an amount related to the
zoom level recorded by the zoom control function.

2. The camera recited in Claim 1 which comprises digital zoom control wherein
pixels of a recorded image are removed from the recorded image and the resultant image
is scaled to its original size to create the illusion of zoom capture, and wherein the
control algorithm adjusts the gain of the audio amplifier as a function of the digital
5 zoom.

3. The camera recited in Claim 1 wherein the control algorithm, when viewing
the recorded images, creates metadata corresponding to recorded audio and alters the
metadata to automatically increase the volume of audio as the apparent zoom is
increased.

4. The camera recited in Claim 1 wherein recording gain remains the same
during recording, and the gain of the audio amplifier, and hence the audio output volume
of the speaker is increased during playback in an amount related to the zoom level.

5. The camera recited in Claim 1 which has headphones coupled thereto, and
wherein the control algorithm automatically adjust headphone gain.

6. A camera comprising:
 a record button;
 a lens;
 a mechanical zoom control that moves certain optical elements of the lens to
 5 different physical positions;
 an image sensor for receiving images viewed by the lens;
 a speaker;
 an audio amplifier; and
 processing circuitry that comprises a control algorithm that implements an
 10 automated zoom control function that zooms the lens while recording images and
 simultaneously adjusts the gain of the audio amplifier as a function of zoom position,
 and which, upon playback, adjusts the gain of the audio amplifier to adjust the sound
 output volume in an amount related to the zoom level recorded by the zoom control
 function.

7. The camera recited in Claim 6 wherein the control algorithm, when viewing
 the recorded images, creates metadata corresponding to recorded audio and alters the
 metadata to automatically increase the volume of audio as the apparent zoom is
 increased.

8. The camera recited in Claim 6 wherein recording gain remains the same
 during recording, and the gain of the audio amplifier, and hence the audio output volume
 of the speaker is increased during playback in an amount related to the zoom level.

9. The camera recited in Claim 6 which has headphones coupled thereto, and
 wherein the control algorithm automatically adjust headphone gain.

10. A method comprising the steps of:
 configuring a camera to have a record button, a lens, an image sensor for
 receiving images viewed by the lens, and processing circuitry that comprises a control
 algorithm;
 5 automatically recording a plurality of images while depressing the record button
 to capture a series of very closely related images having different zoom levels; and
 adjusting the gain of the audio amplifier to adjust the sound output volume in an
 amount related to the zoom level recorded by the zoom control function.

11. The method recited in Claim 10 wherein the step of automatically recording the images comprises removing pixels of a recorded image from the recorded image and scaling the resultant image to its original size to create the illusion of zoom capture.

12. The method recited in Claim 10 wherein the step of automatically recording the images comprises automatically recording a plurality of images to capture a series of very closely related images having different zoom levels.

13. The method recited in Claim 10 wherein the step of adjusting the gain comprises creating metadata corresponding to recorded audio and altering the metadata to automatically adjust the volume of audio as the apparent zoom is adjusted.

14. The method recited in Claim 10 wherein the step of adjusting the gain comprises the steps of:

keeping the gain the same during recording; and

5 adjusting the gain of the audio amplifier, and hence the audio output volume of the speaker, during playback in an amount related to the zoom level.

15. A method comprising the steps of:

configuring a camera to have a record button, a lens, an image sensor for receiving images viewed by the lens, and processing circuitry that comprises a control algorithm;

5 automatically recording a plurality of images while depressing the record button to capture a series of very closely related images having different zoom levels by moving certain optical elements of the lens to different physical positions; and

upon playback, adjusting the gain of the audio amplifier to adjust the sound output volume in an amount related to the zoom level recorded by the zoom control
10 function.

16. The method recited in Claim 15 wherein the step of adjusting the gain comprises creating metadata corresponding to recorded audio and altering the metadata to automatically adjust the volume of audio as the apparent zoom is adjusted.

17. The method recited in Claim 15 wherein the step of adjusting the gain comprises the steps of:

5 keeping the gain the same (during recording; and
 adjusting the gain of the audio amplifier, and hence the audio output volume of
5 the speaker, during playback in an amount related to the zoom level.

18. A camera comprising:

a record button;

image means for receiving images viewed by the camera;

audio apparatus; and

5 processing means that implements an automated zoom control function for
automatically recording images having different zoom levels while depressing the record
button, and which, upon playback, adjusts audio apparatus gain to adjust the sound
output volume in an amount related to the zoom level recorded by the zoom control
function.

19. The camera recited in Claim 18 wherein the processing means comprises a
mechanical zoom control that moves certain optical elements of the lens to different
physical positions, and which zooms the image means while recording the images and
simultaneously adjusts the gain of the audio apparatus as a function of zoom position.

20. The camera recited in Claim 18 wherein the processing means comprises
digital zoom control wherein pixels of a recorded image are removed from the recorded
image and the resultant image is scaled to its original size to create the illusion of zoom
capture, and which adjusts the gain of the audio apparatus as a function of the digital
5 zoom.